

# APPARATUS AND METHOD FOR DETECTING AND MITIGATING A STOVETOP FIRE

## ABSTRACT OF THE DISCLOSURE

There is provided an apparatus that has a sensor unit located so as to monitor physical parameters of a stove top and a control unit that is positioned to turn off the stove top heating elements in response to the sensor unit. The sensor unit has an array of sensors such as ultraviolet, infrared, temperature, smoke, and combustion byproduct sensors. The sensor unit also has a microcontroller in the form of a neural network that is able to distinguish between a hazardous fire condition and a non-hazardous fire condition on the stove top. The neural network is trained by exposing the sensor unit to a variety of hazardous conditions and non-hazardous conditions and identifying to the neural network whether these conditions are hazardous or non-hazardous. Once the neural network has been trained, the sensor unit monitors the stove top and if it detects a hazardous condition, it signals the control unit, which turns the heat off on the stove top.